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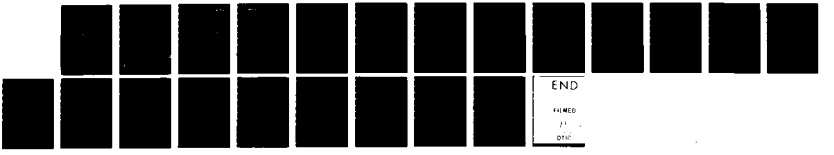

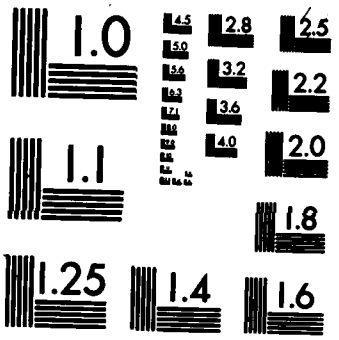

THE AIR FORCE VISIBILITY AND MANAGEMENT OF OPERATING AND SUPPORT COSTS; A PRACTICAL APPROACH TO O&S COSTING

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By

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Historically, the operating and support cost portion of a weapon system life cycle cost has been unavailable for use by the cost analysis community. Within the Air Force, numerous models have been developed and used including Logistics Composite Model (LCOM), Logistics Support Cost (LSC), Mod-Metric, RCA's PRICE Model, and Modular Life Cycle Cost Model (MLCCM). A recent RAND study critiqued them and other Air Force parametric models.

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20. Abstract (Continued)

Its thrust was that the Air Force has developed reasonable models to predict out-year O&S cost, but their (the models) credibility was limited in part by the nonavailability of accurate O&S cost data to feed them. For these needs, as well as many others, the DOD mandated VAMOSC developments for all services. VAMOSC is intended to portray the O&S costs of existing systems so that parametric or analogy models of new systems may be built and exercised as well as supporting other models and cost build-ups.

VAMOSC is now operational. It consists of three data systems:

a. Weapon Systems Support Cost (D160) O&S cost of aircraft systems at the MDS level of detail.

b. Communications-Electronics (D160A) O&S cost of ground based C-E gear at the TMS level of detail.

c. Component Support Cost System (D160B) O&S cost of components of aircraft at the work unit code level of detail (IOC Sep 82)..

Paper is an introduction to the cost data contained in VAMOSC as well as illustrative examples of its use in cost analysis. It will show how VAMOSC may be used to provide the visibility of rising O&S costs to Air Force staff so that they may be able to manage those costs. Since VAMOSC has been built primarily to support the DSARC and POM decision process, presentation will key on these areas.

This paper is a brief description of the United States Air Force Visibility and Management of Operating and Support Costs (VAMOSC) development. This paper will define the system, show VAMOSC's objectives, and briefly trace its history. Then the regulations and directives that bound VAMOSC will be discussed. Finally, its output, utility to the customer community, and enhancements will be stated. In the second part of the paper, an example of the use of VAMOSC in the development of an analogy model for operating and support (O&S) cost will be demonstrated and its utility discussed.

Life Cycle Cost is defined as the total cost to the government of acquisition and ownership of a weapons system over its entire life. It includes the cost of development, acquisition, operations and support, and where applicable, disposition (3:86). Some techniques have been developed to estimate the research, development and acquisition costs of new weapon systems, but the operating & support component of the Life Cycle Cost has been more difficult to capture.

The difficulty in estimating operating & support costs for new weapons systems was not a serious problem, while their magnitude was small in comparison to total expenditures. However, in the mid-1960s, it was noted by elements of the DOD that the percentage of total financial resources consumed by O&S was increasing rapidly and soon would surpass the percentage available for acquisition of new weapon systems. Taken to its logical conclusion, the DOD would be ultimately expending all its available resources in supporting existing weapons systems and would have no funds to develop new ones. In 1968, the O&S portion of the total cost of weapon systems exceeded 50% (3:29-30). And inasmuch as the measurement of O&S costs were difficult and inaccurate, then the realization that their magnitude was increasing and would soon become critical, was not readily apparent.

When these facts were finally realized in the DOD, action was taken. In October 1975, the Assistant Secretary of Defense promulgated a Management by Objective (MBO)

9 with the stated goal of reducing operating and support (O&S) costs. A subset of MBO 9 was MBO 9-2 which is titled DOD Requirements for Visibility and Management of Support Costs. This memorandum is the genesis of the DOD VAMOSC development. The guidance tasked the military departments to (1) develop weapons systems operating and support cost visibility, (2) develop component level cost visibility, (3) standardize O&S cost terminology and definitions DOD-wide, and (4) institutionalize the O&S cost systems at each service (1).

The MBO 9-2 guidance to the services pointed out historically that DOD components did not consider the O&S costs as a major decision element in the design, development, and procurement of a new weapon system. The MBO further states that:

> . . . the decision to buy a new weapon system implicitly commits the DOD to support the weapons system over its operating lifetime. In all likelihood, the costs of this support will - for major systems - exceed the initial cost of acquisition. Thus from the viewpoint of the total cost impact on DOD, it is clear that . . . operating and support costs of current systems be identified and examined with a view toward controlling the costs of new systems entering the operating inventory and providing a baseline for hard decisions on affordability and operation and support concepts (1:1).

VAMOSC provides for the user the visibility of O&S costs; that is, "The attribution of operating and support costs to the weapon system for which the costs were incurred and the ready availability of this information to all levels of management (1)." VAMOSC provides this visibility of O&S costs so that others may manage them and reduce and control system life cycle costs.

Following the DOD guidance, the Air Force developed two systems to track O&S costs. The first, developed in 1976, was called the Operating and Support Cost Estimating Reference (OSCER). It tracked and reported aircraft O&S costs at the MDS level and was developed by HQ USAF/ACMC. About the same time, HQ USAF/LEYE developed contractually a similar system to report O&S costs for Communications, Electronics and Meteorological (CEM) equipment at the TMS level; entitled Communications-Electronics Logistics Support Costs Management Program. Both systems operated in accordance with

their design specifications, however, rapid development had resulted in sketchy documentation and only minimum provisions for configuration management. This allowed the feeder systems to alter their logic without the possibility of reclama from either OSCER or the CEM system. Finally, both systems were allotted only minimum resources for development. These factors caused OSCER's logic to rely heavily on canned utility routines which necessitated much human interaction to operate the system work and an incomplete understanding of the maintenance of CEM's logic when it was transferred from the contractor to the Air Force. Regardless of the many innovative ideas and dedication of the developers of these systems, the factors mentioned adversely affected the operation and utility. Considering the resources available and the deadlines imposed, the talent and dedication of developers was not sufficient to overcome the basic problems (4:4).

Also in 1967, HQ AFLC had developed the Logistics Support Cost Ranking System, K051, which tracked the O&S costs of components of aircraft at the national stock number (NSN) level. However, the system provided only the depot maintenance or exchangeable repair cost of the NSN. A study by HQ AFLC/LOL on line replacement units/shop replacement units (LRU/SRU) led to the enhancement of the K051 system to field level O&S costs by VAMOSC. However, depots deal with costs of reparable items using a stock number identification, bases use work unit codes to track base maintenance. In order to collect the O&S cost of components of aircraft, a national stock number/work unit code cross reference dictionary would have to be developed.

So, the current Air Force VAMOSC operation consists of three data systems to satisfy the CAIG guidance.

a. Weapons System Support Cost (WSSC), D160 data system - O&S costs of aircraft at the MDS level.

b. Communications-Electronics (C-E), D160A data system - O&S costs of ground based communication/electronics systems at the TMS level of detail.

c. Component Support Cost System (CSCS), D160B data system - O&S cost of components of aircraft at the NSN/WUC level of detail.

The requirement for VAMOSC was first promulgated by the MBO 9-2 from DOD. This requirement has been definitized in several other DOD and Air Force regulations including DODD 5000.4, 5000.39, 5000.28, and AFR 800-8.

DODD 5000.4 is titled OSD Cost Analysis Improvement Group (CAIG). "The CAIG acts as the principal advisory body to the DSARC on matters relating to cost (13)." The CAIG also developed and released to the services the Aircraft Operating and Support Cost Development Guide, known as the CAIG Guide. This document provides for the service VAMOSCs' cost definition, excluded costs, and a schedule of accounts for portrayal of costs to DOD (16). This document has been used by the Air Force Office of VAMOSC as a primary requirements document. The D160 and D160A data systems are, in large part, a reflection of this guidance. The CAIG also provides encouragement and cross communication to the service VAMOSCs. This is accomplished by the VAMOSC Steering Committee. This committee, chaired by Dr John Morgan, has members from the Army, Navy, and Air Force VAMOSC organizations as well as HQ and Secretariate level representation.

DODD 5000.39 is titled Acquisition and Management of Integrated Logistic Support for Systems and Equipment.

> The support costs, manpower requirements, and R&M of current comparable equipment shall be identified at a system and subsystem level by milestone I to provide comparative baselines for estimates of new system and to identify and set targets for improvement in the new system.
>
> The heads of DOD components shall . . . maintain reporting systems and data bases, consistent with the provisions of DOD Directive 5000.19 for maintenance data, supply data, deployment, readiness, and utilization data and SA and O&S cost data on

> fielded systems. This data shall be used in DOD Component Visibility and Management of O&S Cost (VAMOSC) Information Systems and made available to developers of new weapon systems at the level of detail needed for design tradeoffs.
>
> The chain of OSD cost analysis improvement group (CAIG) shall issue guidance for . . . service programs to improve support cost estimating techniques and data bases (15).

It is currently being revised and is in draft form as of July 1982. The underscored portion is added and shows the O&S cost data tracked by the service components will be performed by the service VAMOSC organizations.

DODD 5000.28, Design to Cost. It states in part, "Programs to strengthen the data base of weapon system operation and support cost shall continue. As the ability to translate O&S cost elements into 'design to' requirements improves, design to cost goals may be extended into this area (14)." Our ability to meet the intent of this DOD regulation historically has been made more difficult by our lack of O&S cost visibility.

AFR 800-8, Integrated Logistics Support Program. Within the DSARC process for acquiring new weapon systems, certain data is required at each major milestone. The O&S cost estimates for the new system are required early in the process. As the regulation states:

> Program managers and the DPMLs or ILSMs will use maturing data bases and information systems to compare operating and support costs of selected analogous systems as a baseline with proposed systems.
>
> Under attachment 2 - support considerations in the system acquisition process
>
> Milestone 0 - plans for analysis of manpower, other support costs, and readiness drivers of current systems.
>
> Milestone I - manpower and other logistics cost drivers of current systems have been identified at a detail level and targets for improvement on the new systems have been established (12).

The Air Force VAMOSC will provide the actual, historical cost of the components of Air Force systems so that bottoms-up analogy cost models may be built by the System Program Offices (SPO).

The uses for information generated by the VAMOSC system fall into eight major categories. These categories are the result of a series of analyses and do not necessarily reflect a current end product of VAMOSC. However, they will use VAMOSC data as a basis for the analyses described below.

a. Force/Support Program Balance. In building the Five Year Defense Program (FYDP), a balance of funding decisions must be made between force modernization and the operation & support of current forces. The magnitude of the operations and support costs of new system can be more realistically predicted if historical records of current costs are available.

b. Weapon System Comparisons. Credible estimates of the O&S cost impact of new systems and historical perspective of the O&S costs of current systems will permit DOD to better discriminate between competing systems and the costs of the mix of systems to be operated by defense.

c. Support Resource Planning. A key use of O&S cost data is for support resource planning and programming. By establishing a system to accumulate incurred O&S costs by weapon system and undertaking the task of identifying the cause and effect relationships between weapon system design and O&S costs, the services and OSD will be better able to defend to the DSARC and the Congress, the operations, maintenance and personnel support resource demands of new systems.

d. Design Trade Studies to Set Reliability and Maintainability (R&M) Goals. Operating and support cost data can be used in making decisions between alternatives at the subsystem and component levels of weapon systems. Maintenance cost for subsystems related to R&M characteristics will provide a basis for these comparisons.

e. Logistic Support Alternatives. A weapon system cost visibility system can assist in determining the most efficient level (organization, intermediate and depot maintenance) at which to accomplish the repairs by providing historical cost data which can be related to a Service's Logistics concept.

f. Affordability Studies. The determination of new system Life Cycle Costs may indicate that a weapon system, though highly effective in achieving its mission is not practical because of its high cost of acquisition and/or operation and support. The combination of a knowledge of actual weapon system O&S coupled with estimates of downstream cost impacts of new and current systems will permit DOD to make credible system affordability studies. In this light, VAMOSC data can be utilized as a data base to be used with numerous modeling techniques used for O&S cost predictions.

g. Warranty/Contractor Support Analysis. Estimates of current government costs for repair of comparable equipment are necessary to evaluate contractor warranty proposals. Source selection between contractors imposes similar requirements. Historical data on which to base warranty estimates should make them more realistic.

h. Equipment Maintenance Management. Maintenance requirements are peculiar to and therefore, must be determined for each weapon system. Historical data indicating the type, frequency and magnitude of repairs to components of a weapon system are essential to revision of maintenance programs for existing systems. For new systems/subsystem/components, initial maintenance programs could be established and costs predicted based on actual experience with an existing similar system (5:6).

As has been stated above, there are three data systems in the current Air Force VAMOSC. The first is the Weapons System Support Cost (WSSC) system. It provides to the user the O&S cost of aircraft weapon systems. Its cost categories are as follows in the format for the DOD CAIG.

a. Unit Mission Personnel
   Aircrew

d. Sustaining Investment
   Reparable Spares

Maintenance
Organizational/Intermediate
Ordnance
Other Maint. Personnel
Other Unit Personnel
Unit Staff
Security
Remaining Unit Personnel

b. Unit Consumption
Petroleum, Oil & Lubricants
Maintenance Materiel
Training Ordnance

c. Depot Maintenance
Airframe Rework
Engine Rework
Component Repair
Support Equipment
Modifications*
Other Depot
Contracted Unit Spt*
Replacement Support Equip*
Modification Kits

e. Installation Support Personnel
Base Operating Support
Real Property Management
Base Communications

f. Indirect Personnel Support
Misc Operating and Maint.
Permanent Change of Station*
Medical

g. Depot Non-Maintenance
General Depot Support
Second Destination Transportation*

h. Personnel Acquisition & Training* (9

For the cost categories marked with an asterisk, WSSC either does not currently have a methodology developed, or the costs in the category are mixed with another cost category.

The second VAMOSC system is the Communications-Electronics (C-E) cost system. It provides the O&S cost of ground-based communications-electronics system at the TMS level. Its cost categories are as follows:

a. Installation Support
Base Operating Support
Real Property Maintenance
Communications
Medical (Health Care)

b. Indirect Personnel Cost
Misc Operations & Maint (TDY)
Permanent Change of Station

c. Depot Non-Maintenance
General Depot Support
Engineering Support (Contractor)*
Transportation and Packaging

d. Advanced Training*

e. Operating & Support Cost-TMS Total
Unit Mission Personnel
Operations Personnel*
Base Maintenance Personnel
Unit Administrative Personnel
Supply Support Personnel
Unit Level Consumption
Fuel
Maintenance Material
Utilities
Depot Level Maintenance
Replacement Investment (10)

The cost categories of advanced training, contractor engineering support, and operation personnel are not as yet reported in the C-E system.

The third data system within VAMOSC is the Component Support Cost System, which provides the O&S cost of the components of aircraft at the five digit work unit code and/or NSN. Following are the cost categories reported by CSCS:

a. Base TCTO Costs
   TCTO Labor Costs
   TCTO Material Costs

b. Base Sup Gen Costs by Two Digit WUC

c. Base Labor Costs

d. Base Direct Material Costs

e. Base Maint OH Costs

f. Second Dest. Trans Costs

g. Base Exch Repair Costs

h. Base Exch Modif Costs

i. Base Condemnations Spares Costs

j. Base Sup. Mgmt OH Costs

k. Depot TCTO Costs
   TCTO Labor Costs
   TCTO Material Cost

l. Depot Sup Gen Costs

m. Depot Labor Costs

n. Depot Direct Mat Costs

o. Depot Maint OH Costs

p. Depot Exch Repair Costs

q. Depot Exch Modif Costs

r. Depot Condemnation Spares Costs (11)

WSSC & C-E are top-down systems. If an analyst needs the cost of the aircraft, but not its bits and pieces, then WSSC is the data source. If, however, he is interested only in a portion of the aircraft, say a portion of the radio, which is installed in several aircraft, then he would get his information from the CSCS system. It should be noted when comparing WSSC to CSCS, that WSSC includes more indirect, overhead, and general and administrative (G&A) costs than CSCS. To illustrate, if an airman is assigned to an F-15 squadron's base maintenance activity and must be there because the aircraft are there, then the WSSC system assigns his entire pay and allowances to the F-15. CSCS, however, only costs a portion of his pay when he actually performs and documents via the Maintenance Data Collection System (MDCS) work on the aircraft. So the total base

labor cost for the F-15s using total WSSC vs CSCS, the CSCS will show only direct labor dollars, not indirect and idle time.

The VAMOSC staff early on understood that since the output was to be used, in part, to justify the procurement of new weapons systems via the DSARC process and the modification of existing weapon systems via the POM process, its credibility and veracity must be of the highest. And since this data will be used to help justify the expenditure of billions of dollars, VAMOSC's acceptability by the House and Senate Armed Services Committee and Congressional Budget Office is paramount. Because of this high level of use, the Office of VAMOSC embarked on a contractor validation of the validity of the algorithms, accuracy, and appropriateness of the data sources and utility of the outputs to the user community. This research into VAMOSC's data systems is planned as a three phase approach.

a. Phase I for each system is intended to validate the initial logic, data sources in a preliminary way, and satisfaction of the CAIG requirements. We currently have Phase I contracts for all three VAMOSC systems.

b. Phase II research is to be utilized to validate logic developed after Initial Operational Capability (IOC). This additional logic may be added for any of four reasons:

1. Results of research which repudiates certain algorithms or data sources.

2. Logic developed after IOC to meet the initial requirements, that is, those "too hard" processes such as second destination transportation.

3. A change in input data systems that requires a logic change in order to accommodate it.

4. A new requirement which causes additional logic to be developed.

Phase II research is also planned for each system in order to validate the accuracy of our major feeder data systems. It is planned to let a competitive contract for the D160 WSSC data system in FY83 and for C-E and CSCS in FY84.

c. The third phase of research is planned for two purposes. The first purpose is to perform longitudinal research for critical, high cost driver algorithms from VAMOSC back to book of original origin. The second purpose is repetitive research on those critical cost elements whose assumptions, constraints, or limitations may change over time and will need to be revalidated periodically (6)..

In this portion of the paper, I wish to discuss more detail as to the utility of VAMOSC to the user via an example. But first, it should be pointed out that WSSC and the other modules of VAMOSC are a cost collecting system, rather than a cost accounting system or a cost estimating system. A cost accounting system accounts for each and every cost to its fullest extent. It performs this function in order to compare total appropriations to total expenditures and to account for any variance. The VAMOSC logic is not interested in all expressions of cost, only weapon system-related costs. Therefore, many costs are excluded. A cost estimating system draws from a population a suitable sample of data and uses it to extrapolate from the sample to a population parameter. Instead of this sampling technique, VAMOSC collects census data in most cases in order to measure population parameters directly rather than through indirect methods. It is for these two reasons that VAMOSC could be entitled a cost collecting system (7:7).

Several data systems feed information into the VAMOSC system. Certain inputs cannot be obtained through the data systems and are, therefore, placed manually into the system via standard reports control system (RCS) reports. It should be noted that the information portrayed in the VAMOSC reports will only be as accurate as the data systems that are feeding the VAMOSC data base (4). And as mentioned above, the Office of VAMOSC is embarked on a multi-year effort to validate the accuracy of the systems input data. VAMOSC has memorandums of agreement (MOAs) with 34 Air Force data systems to provide tapes as well as over 60 RCS reports for manual input of data. VAMOSC originates as raw data at Air Force bases and depots. We collect activity levels such as:

flying hours

base/depot maintenance man-hours

base/depot maintenance material

petroleum, oil and lubricants (POL) consumed

base not reparable this station (NRTS)

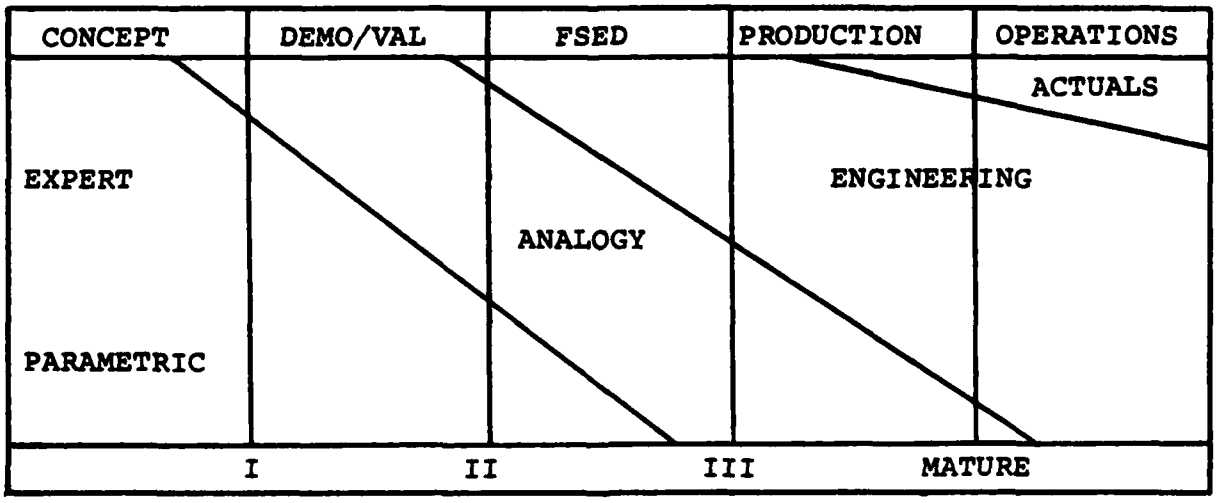
base/depot condemnations

dollars expended

others

This data passes sometimes through three data systems before it is input into VAMOSC. Those direct costs such as POL are attributed directly to the weapon system which consumed them. However, these costs such as indirect, overhead, and general and administrative are allocated to the weapon system using an allocation algorithm. These algorithms are developed using the above activity ratios. They are used to absorb the general dollars expended in our accounting system.

One of the primary uses of VAMOSC is in the cost estimation of the O&S portion of the Life Cycle Cost (LCC) of a new weapon system. There are several methods that can be used in this process; expert, parametric, analogy, and engineering. These estimation techniques are appropriate during different portions of the DSARC process as shown below with some overlap.



(2:3-8)

During the Conceptualization phase, expert and parametric estimation techniques are most appropriate because the design of the weapons system is fluid. The expert method solicits opinion from individuals acknowledged to be proficient in the area under investigation. Parametric estimation uses various mathematical processes such as regression analysis to develop a Cost Estimating Relationship (CER). A CER is a mathematical equation that relates one or more characteristics of an item to an element of cost.

During the demonstration/validation phase of the DSARC process, the design of the weapons system is finalized. At this time, analogy models become more appropriate. The analogy technique first identifies a system, subsystem, or component currently in the inventory that is similar in design/operation to the proposed new unit. The cost of the new system is developed by taking the O&S cost of the old system and adjusting it to account for differences between the two systems.

The engineering estimate techniques become useful during the Full Scale Engineering Development portion of the process. The technique uses actual cost data produced by the prototype weapon system. Engineering estimation is a bottoms-up approach that attempts to determine the actual cost that occurs in a realistic situation using actual prototype or production systems. Finally actual cost data from deployed systems is available from VAMOSC (2)..

The technique that we will use to demonstrate the use of VAMOSC is analogy estimation. As explained earlier, the analogy estimate assumes a similarity between a deployed system or portion of it and a proposed one. This comparison technique has the advantage of greater accuracy, than does the use of CERs or expert opinion, because the analogy estimate is more appropriate as the weapon system design becomes firm. Negative aspects of the analogy estimate are its laborious procedure to build up estimates of each part of the new system and a difficulty in reaching a consensus of opinion in the similarity between old and new systems.

For the analogy estimate demonstation, I will assume that we are estimating the then-year O&S costs of the new Next Generation Fighter (NGF). We are past Milestone I and the design is reasonably firm, but no prototypes have yet been developed. To support the example, several other assumptions need to be made. We will assume that:

a. 15% of the NGF is identical to existing systems

b. 65% of the NGF is similar to existing systems

c. 20% of the NGF is completely new technology.

We also must assume a similarity between the O&S costs of new components and existing ones.

For the 15% of the components of the NGF that are identical to existing systems, we will use the historical O&S cost for the estimate. It has been decided that the AN/ARC-164 radio will be installed in the NGF. It is also used on the F-15. We will assume identical cost because of identical operations. The O&S cost of the radio and its components can be found in the Component Support Cost System (D160B) of VAMOSC. An appropriate year or years will be selected for the radio's cost, perhaps IOC + 5 years, to show mature system operational costs. For all component costs, we must discount them back to a base year, then all costs must be normalized to the base year of the analysis. Finally, all costs will be compounded out to the Next Generation Fighter's IOC + 5 year, for example.

In the example, we have assumed that 65% of the NGF has similar systems to those already deployed. The fire control computer on the NGF is similar to that used on the F-16. Because of similar operation, we will assume similar costs. We again go to CSCS to costs of the 5 digit work unit code (WUC) and NSN O&S costs for the existing system. These costs may be adjusted depending on the degree of similarity between them. Then again, using Present Value theory, we discount, normalize, and compound them in order to have a homogeneous analysis.

A portion, estimated at 20%, of the NGF is completely new technology. In order to estimate the then year cost, parametric techniques combined with expert opinion should be employed. We may use the VAMOSC data bank to construct suitable CERs and employ them for an O&S cost estimate. They then should be cross-checked with experts in the area for reasonableness, using the Delphi method or any other estimating methodology that he is comfortable with.

To complete our example, the cost estimates must be integrated into a meaningful analysis. After the effects of inflation are allowed for, then an adjustment may be made for cost synergy. That is, the sum of the individual costs may be more than the total system. The O&S cost of a component of the new aircraft may have to be adjusted upward because the utilization of these systems in the aircraft may require more power, additional access or additional cooling.

The Air Force VAMOSC is now operational. It is described in AFR 400-34, Volumes I through IV, as follows:

Volume I - General Description of Policy & Procedure

Volume II - WSSC User Manual, D160 data system

Volume III - C-E User Manual, D160A data system

Volume IV - CSCS User Manual, D160B data system

Output products may be requested in (1) hard copy, (2) microfiche, (3) tape, and (4) special products including custom interrogation of the data bases. WSSC & C-E are annual systems and currently have O&S costs for FY81 on approximately 100 aircraft systems and 1100 end items of communications-electronics. CSCS will be operational in September 1982 with over 300,000 NSN to WUC relationships with third quarter FY82 data available at that time. Air Force activities may order output products directly from the Office of VAMOSC (HQ AFLC/LO(VAMOSC), WPAFB, OH 45433). Other DOD activities should order first through HQ USAF/LEYM, Pentagon, Washington, D.C. 20330. Contractor

requests should have a Air Force point of contact and current contract or Air Force sponsorship (8).

Much of the utility of the VAMOSC is dependent on the awareness of the customer community to the new resource. We have attempted to make the potential user aware of VAMOSC and have, in part, succeeded. However, we feel that if users disseminate information on VAMOSC to its organizations and encourages its use, that higher utilization of VAMOSC will occur. VAMOSC has been designed to help acquisition cost personnel and contractors develop cost models during the milestone 0 through 2 timeframes as well as other uses. We stand ready to support data requests for cost build-ups and modeling. We encourage users to utilize VAMOSC data where possible and provide input to us so that we may more fully meet your needs.

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